

Sequence Listing korrekt.txt
SEQUENCE LISTING

<110> Aventis Behring GmbH

<120> Modified cDNA Factor VIII and its Derivatives

<130> A66

<160> 34

<170> PatentIn version 3.1

<210> 1

<211> 34

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<213> Artificial

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ggcgagattt ccaaggactt ctggcgatgg ttcc

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gacataagct tccatgccac catgttggtg gg

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cagaggaacc ccaactacga cgtaaaaata atgaagaagc ggaagac

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<211> 47

<212> DNA

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47

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42

Sequence Listing korrekt.txt

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ggtcaggttt gatgatgacg actctccttc ctttatcc

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<210> 13

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38

Sequence Listing korrekt.txt

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38

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41

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41

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cctttaagac tcgtaaagct attcagcatg aatcagg

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Sequence Listing korrekt.txt

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ccttttggtg atctccctga atacaaagga cggacatc 38

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Sequence Listing korrekt.txt

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<210> 29

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cagctggagt gcagcttcag gatccagagt tc

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gaactctgga tcctgaagct gcactccagc tg

32

<210> 31

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<212> DNA

<213> Artificial

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cgatggtatc tgctcagcat gaagagcaat gaaaacatcc attctattc

49

<210> 32

<211> 49

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gaatagaatg gatgttttca ttgctcttca tgctgagcag ataccatcg

49

<210> 33

<211> 2114

Sequence Listing korrekt.txt

<212> PRT

<213> Porcine

<400> 33

Ala Ile Arg Arg Tyr Tyr Leu Gly Ala Val Glu Leu Ser Trp Asp Tyr
1 5 10 15
Arg Gln Ser Glu Leu Leu Arg Glu Leu His Val Asp Thr Arg Phe Pro
20 25 30
Ala Thr Ala Pro Gly Ala Leu Pro Leu Gly Pro Ser Val Leu Tyr Lys
35 40 45
Lys Thr Val Phe Val Glu Phe Thr Asp Gln Leu Phe Ser Val Ala Arg
50 55 60
Pro Arg Pro Pro Trp Met Gly Leu Leu Gly Pro Thr Ile Gln Ala Glu
65 70 75 80
Val Tyr Asp Thr Val Val Thr Leu Lys Asn Met Ala Ser His Pro
85 90 95
Val Ser Leu His Ala Val Gly Val Ser Phe Trp Lys Ser Ser Glu Gly
100 105 110
Ala Glu Tyr Glu Asp His Thr Ser Gln Arg Glu Lys Glu Asp Asp Lys
115 120 125
Val Leu Pro Gly Lys Ser Gln Thr Tyr Val Trp Gln Val Leu Lys Glu
130 135 140
Asn Gly Pro Thr Ala Ser Asp Pro Pro Cys Leu Thr Tyr Ser Tyr Leu
145 150 155 160
Ser His Val Asp Leu Val Lys Asp Leu Asn Ser Gly Leu Ile Gly Ala
165 170 175
Leu Leu Val Cys Arg Glu Gly Ser Leu Thr Arg Glu Arg Thr Gln Asn
180 185 190
Leu His Glu Phe Val Leu Leu Phe Ala Val Phe Asp Glu Gly Lys Ser
195 200 205
Trp His Ser Ala Arg Asn Asp Ser Trp Thr Arg Ala Met Asp Pro Ala
210 215 220
Pro Ala Arg Ala Gln Pro Ala Met His Thr Val Asn Gly Tyr Val Asn
225 230 235 240

Sequence Listing korrekt.txt

Arg Ser Leu Pro Gly₂₄₅ Leu Ile Gly Cys₂₅₀ His Lys Lys Ser Val Tyr₂₅₅ Trp

His Val Ile Gly₂₆₀ Met Gly Thr Ser Pro₂₆₅ Glu Val His Ser Ile₂₇₀ Phe Leu

Glu Gly His₂₇₅ Thr Phe Leu Val Arg₂₈₀ His His Arg Gln Ala₂₈₅ Ser Leu Glu

Ile Ser Pro Leu Thr Phe Leu₂₉₅ Thr Ala Gln Thr Phe₃₀₀ Leu Met Asp Leu

Gly₃₀₅ Gln Phe Leu Leu Phe₃₁₀ Cys His Ile Ser Ser₃₁₅ His His His Gly₃₂₀

Met Glu Ala His Val₃₂₅ Arg Val Glu Ser Cys₃₃₀ Ala Glu Glu Pro Gln₃₃₅ Leu

Arg Arg Lys Ala₃₄₀ Asp Glu Glu Glu Asp₃₄₅ Tyr Asp Asp Asn Leu₃₅₀ Tyr Asp

Ser Asp Met₃₅₅ Asp Val Val Arg Leu₃₆₀ Asp Gly Asp Asp Val₃₆₅ Ser Pro Phe

Ile Gln Ile Arg Ser Val Ala₃₇₅ Lys Lys His Pro Lys₃₈₀ Thr Trp Val His

Tyr₃₈₅ Ile Ser Ala Glu Glu₃₉₀ Glu Asp Trp Asp Tyr₃₉₅ Ala Pro Ala Val Pro₄₀₀

Ser Pro Ser Asp Arg₄₀₅ Ser Tyr Lys Ser Leu₄₁₀ Tyr Leu Asn Ser Gly₄₁₅ Pro

Gln Arg Ile Gly₄₂₀ Arg Lys Tyr Lys Lys₄₂₅ Ala Arg Phe Val Ala₄₃₀ Tyr Thr

Asp Val Thr₄₃₅ Phe Lys Thr Arg Lys₄₄₀ Ala Ile Pro Tyr Glu₄₄₅ Ser Gly Ile

Leu Gly₄₅₀ Pro Leu Leu Tyr Gly₄₅₅ Glu Val Gly Asp Thr₄₆₀ Leu Leu Ile Ile

Phe₄₆₅ Lys Asn Lys Ala Ser₄₇₀ Arg Pro Tyr Asn Ile₄₇₅ Tyr Pro His Gly₄₈₀ Ile

Thr Asp Val Ser Ala₄₈₅ Leu His Pro Gly Arg₄₉₀ Leu Leu Lys Gly₄₉₅ Trp Lys

His Leu Lys Asp₅₀₀ Met Pro Ile Leu Pro₅₀₅ Gly Glu Thr Phe Lys₅₁₀ Tyr Lys

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Trp Thr Val Thr Val Glu Asp Gly Pro Thr Lys Ser Asp Pro Arg Cys
515 520 525

Leu Thr Arg Tyr Tyr Ser Ser Ser Ile Asn Leu Glu Lys Asp Leu Ala
530 535 540

Ser Gly Leu Ile Gly Pro Leu Leu Ile Cys Tyr Lys Glu Ser Val Asp
545 550 555 560

Gln Arg Gly Asn Gln Met Met Ser Asp Lys Arg Asn Val Ile Leu Phe
565 570 575

Ser Val Phe Asp Glu Asn Gln Ser Trp Tyr Leu Ala Glu Asn Ile Gln
580 585 590

Arg Phe Leu Pro Asn Pro Asp Gly Leu Gln Pro Gln Asp Pro Glu Phe
595 600 605

Gln Ala Ser Asn Ile Met His Ser Ile Asn Gly Tyr Val Phe Asp Ser
610 615 620

Leu Gln Leu Ser Val Cys Leu His Glu Val Ala Tyr Trp Tyr Ile Leu
625 630 635 640

Ser Val Gly Ala Gln Thr Asp Phe Leu Ser Val Phe Phe Ser Gly Tyr
645 650 655

Thr Phe Lys His Lys Met Val Tyr Glu Asp Thr Leu Thr Leu Phe Pro
660 665 670

Phe Ser Gly Glu Thr Val Phe Met Ser Met Glu Asn Pro Gly Leu Trp
675 680 685

Val Leu Gly Cys His Asn Ser Asp Leu Arg Asn Arg Gly Met Thr Ala
690 695 700

Leu Leu Lys Val Tyr Ser Cys Asp Arg Asp Ile Gly Asp Tyr Tyr Asp
705 710 715 720

Asn Thr Tyr Glu Asp Ile Pro Gly Phe Leu Leu Ser Gly Lys Asn Val
725 730 735

Ile Glu Pro Arg Ser Phe Ala Gln Asn Ser Arg Pro Pro Ser Ala Ser
740 745 750

Gln Lys Gln Phe Gln Thr Ile Thr Ser Pro Glu Asp Asp Val Glu Leu
755 760 765

Asp Pro Gln Ser Gly Glu Arg Thr Gln Ala Leu Glu Glu Leu Ser Val
770 775 780

Sequence Listing korrekt.txt

Pro Ser Gly Asp Gly Ser Met Leu Leu Gly Gln Asn Pro Ala Pro His
785 790 795 800

Gly Ser Ser Ser Ser Asp Leu Gln Glu Ala Arg Asn Glu Ala Asp Asp
805 810 815

Tyr Leu Pro Gly Ala Arg Glu Arg Asn Thr Ala Pro Ser Ala Ala Ala
820 825 830

Arg Leu Arg Pro Glu Leu His His Ser Ala Glu Arg Val Leu Thr Pro
835 840 845

Glu Pro Glu Lys Glu Leu Lys Lys Leu Asp Ser Lys Met Ser Ser Ser
850 855 860

Ser Asp Leu Leu Lys Thr Ser Pro Thr Ile Pro Ser Asp Thr Leu Ser
865 870 875 880

Ala Glu Thr Glu Arg Thr His Ser Leu Gly Pro Pro His Pro Gln Val
885 890 895

Asn Phe Arg Ser Gln Leu Gly Ala Ile Val Leu Gly Lys Asn Ser Ser
900 905 910

His Phe Ile Gly Ala Gly Val Pro Leu Gly Ser Thr Glu Glu Asp His
915 920 925

Glu Ser Ser Leu Gly Glu Asn Val Ser Pro Val Glu Ser Asp Gly Ile
930 935 940

Phe Glu Lys Glu Arg Ala His Gly Pro Ala Ser Leu Thr Lys Asp Asp
945 950 955 960

Val Leu Phe Lys Val Asn Ile Ser Leu Val Lys Thr Asn Lys Ala Arg
965 970 975

Val Tyr Leu Lys Thr Asn Arg Lys Ile His Ile Asp Asp Ala Ala Leu
980 985 990

Leu Thr Glu Asn Arg Ala Ser Ala Thr Phe Met Asp Lys Asn Thr Thr
995 1000 1005

Ala Ser Gly Leu Asn His Val Ser Asn Trp Ile Lys Gly Pro Leu
1010 1015 1020

Gly Lys Asn Pro Leu Ser Ser Glu Arg Gly Pro Ser Pro Glu Leu
1025 1030 1035

Leu Thr Ser Ser Gly Ser Gly Lys Ser Val Lys Gly Gln Ser Ser
1040 1045 1050

Sequence Listing korrekt.txt

Gly Gln Gly Arg Ile Arg Val Ala Val Glu Glu Glu Glu Leu Ser
1055 1060 1065

Lys Gly Lys Glu Met Met Leu Pro Asn Ser Glu Leu Thr Phe Leu
1070 1075 1080

Thr Asn Ser Ala Asp Val Gln Gly Asn Asp Thr His Ser Gln Gly
1085 1090 1095

Lys Lys Ser Arg Glu Glu Met Glu Arg Arg Glu Lys Leu Val Gln
1100 1105 1110

Glu Lys Val Asp Leu Pro Gln Val Tyr Thr Ala Thr Gly Thr Lys
1115 1120 1125

Asn Phe Leu Arg Asn Ile Phe His Gln Ser Thr Glu Pro Ser Val
1130 1135 1140

Glu Gly Phe Asp Gly Gly Ser His Ala Pro Val Pro Gln Asp Ser
1145 1150 1155

Arg Ser Leu Asn Asp Ser Ala Glu Arg Ala Glu Thr His Ile Ala
1160 1165 1170

His Phe Ser Ala Ile Arg Glu Glu Ala Pro Leu Glu Ala Pro Gly
1175 1180 1185

Asn Arg Thr Gly Pro Gly Pro Arg Ser Ala Val Pro Arg Arg Val
1190 1195 1200

Lys Gln Ser Leu Lys Gln Ile Arg Leu Pro Leu Glu Glu Ile Lys
1205 1210 1215

Pro Glu Arg Gly Val Val Leu Asn Ala Thr Ser Thr Arg Trp Ser
1220 1225 1230

Glu Ser Ser Pro Ile Leu Gln Gly Ala Lys Arg Asn Asn Leu Ser
1235 1240 1245

Leu Pro Phe Leu Thr Leu Glu Met Ala Gly Gly Gln Gly Lys Ile
1250 1255 1260

Ser Ala Leu Gly Lys Ser Ala Ala Gly Pro Leu Ala Ser Gly Lys
1265 1270 1275

Leu Glu Lys Ala Val Leu Ser Ser Ala Gly Leu Ser Glu Ala Ser
1280 1285 1290

Gly Lys Ala Glu Phe Leu Pro Lys Val Arg Val His Arg Glu Asp
1295 1300 1305

Sequence Listing korrekt.txt

Leu Leu Pro Gln Lys Thr Ser Asn Val Ser Cys Ala His Gly Asp
1310 1315 1320

Leu Gly Gln Glu Ile Phe Leu Gln Lys Thr Arg Gly Pro Val Asn
1325 1330 1335

Leu Asn Lys Val Asn Arg Pro Gly Arg Thr Pro Ser Lys Leu Leu
1340 1345 1350

Gly Pro Pro Met Pro Lys Glu Trp Glu Ser Leu Glu Lys Ser Pro
1355 1360 1365

Lys Ser Thr Ala Leu Arg Thr Lys Asp Ile Ile Ser Leu Pro Leu
1370 1375 1380

Asp Arg His Glu Ser Asn His Ser Ile Ala Ala Lys Asn Glu Gly
1385 1390 1395

Gln Ala Glu Thr Gln Arg Glu Ala Ala Trp Thr Lys Gln Gly Gly
1400 1405 1410

Pro Gly Arg Leu Cys Ala Pro Lys Pro Pro Val Leu Arg Arg His
1415 1420 1425

Gln Arg Asp Ile Ser Leu Pro Thr Phe Gln Pro Glu Glu Asp Lys
1430 1435 1440

Met Asp Tyr Asp Asp Ile Phe Ser Thr Glu Thr Lys Gly Glu Asp
1445 1450 1455

Phe Asp Ile Tyr Gly Glu Asp Glu Asn Gln Asp Pro Arg Ser Phe
1460 1465 1470

Gln Lys Arg Thr Arg His Tyr Phe Ile Ala Ala Val Glu Gln Leu
1475 1480 1485

Trp Asp Tyr Gly Met Ser Glu Ser Pro Arg Ala Leu Arg Asn Arg
1490 1495 1500

Ala Gln Asn Gly Glu Val Pro Arg Phe Lys Lys Val Val Phe Arg
1505 1510 1515

Glu Phe Ala Asp Gly Ser Phe Thr Gln Pro Ser Tyr Arg Gly Glu
1520 1525 1530

Leu Asn Lys His Leu Gly Leu Leu Gly Pro Tyr Ile Arg Ala Glu
1535 1540 1545

Val Glu Asp Asn Ile Met Val Thr Phe Lys Asn Gln Ala Ser Arg
1550 1555 1560

Sequence Listing korrekt.txt

Pro Tyr Ser Phe Tyr Ser Ser Leu Ile Ser Tyr Pro Asp Asp Gln
1565 1570 1575

Glu Gln Gly Ala Glu Pro Arg His Asn Phe Val Gln Pro Asn Glu
1580 1585 1590

Thr Arg Thr Tyr Phe Trp Lys Val Gln His His Met Ala Pro Thr
1595 1600 1605

Glu Asp Glu Phe Asp Cys Lys Ala Trp Ala Tyr Phe Ser Asp Val
1610 1615 1620

Asp Leu Glu Lys Asp Val His Ser Gly Leu Ile Gly Pro Leu Leu
1625 1630 1635

Ile Cys Arg Ala Asn Thr Leu Asn Ala Ala His Gly Arg Gln Val
1640 1645 1650

Thr Val Gln Glu Phe Ala Leu Phe Phe Thr Ile Phe Asp Glu Thr
1655 1660 1665

Lys Ser Trp Tyr Phe Thr Glu Asn Val Glu Arg Asn Cys Arg Ala
1670 1675 1680

Pro Cys His Leu Gln Met Glu Asp Pro Thr Leu Lys Glu Asn Tyr
1685 1690 1695

Arg Phe His Ala Ile Asn Gly Tyr Val Met Asp Thr Leu Pro Gly
1700 1705 1710

Leu Val Met Ala Gln Asn Gln Arg Ile Arg Trp Tyr Leu Leu Ser
1715 1720 1725

Met Gly Ser Asn Glu Asn Ile His Ser Ile His Phe Ser Gly His
1730 1735 1740

Val Phe Ser Val Arg Lys Lys Glu Glu Tyr Lys Met Ala Val Tyr
1745 1750 1755

Asn Leu Tyr Pro Gly Val Phe Glu Thr Val Glu Met Leu Pro Ser
1760 1765 1770

Lys Val Gly Ile Trp Arg Ile Glu Cys Leu Ile Gly Glu His Leu
1775 1780 1785

Gln Ala Gly Met Ser Thr Thr Phe Leu Val Tyr Ser Lys Glu Cys
1790 1795 1800

Gln Ala Pro Leu Gly Met Ala Ser Gly Arg Ile Arg Asp Phe Gln
1805 1810 1815

Sequence Listing korrekt.txt

Ile Thr Ala Ser Gly Gln Tyr Gly Gln Trp Ala Pro Lys Leu Ala
1820 1825 1830

Arg Leu His Tyr Ser Gly Ser Ile Asn Ala Trp Ser Thr Lys Asp
1835 1840 1845

Pro His Ser Trp Ile Lys Val Asp Leu Leu Ala Pro Met Ile Ile
1850 1855 1860

His Gly Ile Met Thr Gln Gly Ala Arg Gln Lys Phe Ser Ser Leu
1865 1870 1875

Tyr Ile Ser Gln Phe Ile Ile Met Tyr Ser Leu Asp Gly Arg Asn
1880 1885 1890

Trp Gln Ser Tyr Arg Gly Asn Ser Thr Gly Thr Leu Met Val Phe
1895 1900 1905

Phe Gly Asn Val Asp Ala Ser Gly Ile Lys His Asn Ile Phe Asn
1910 1915 1920

Pro Pro Ile Val Ala Arg Tyr Ile Arg Leu His Pro Thr His Tyr
1925 1930 1935

Ser Ile Arg Ser Thr Leu Arg Met Glu Leu Met Gly Cys Asp Leu
1940 1945 1950

Asn Ser Cys Ser Met Pro Leu Gly Met Gln Asn Lys Ala Ile Ser
1955 1960 1965

Asp Ser Gln Ile Thr Ala Ser Ser His Leu Ser Asn Ile Phe Ala
1970 1975 1980

Thr Trp Ser Pro Ser Gln Ala Arg Leu His Leu Gln Gly Arg Thr
1985 1990 1995

Asn Ala Trp Arg Pro Arg Val Ser Ser Ala Glu Glu Trp Leu Gln
2000 2005 2010

Val Asp Leu Gln Lys Thr Val Lys Val Thr Gly Ile Thr Thr Gln
2015 2020 2025

Gly Val Lys Ser Leu Leu Ser Ser Met Tyr Val Lys Glu Phe Leu
2030 2035 2040

Val Ser Ser Ser Gln Asp Gly Arg Arg Trp Thr Leu Phe Leu Gln
2045 2050 2055

Asp Gly His Thr Lys Val Phe Gln Gly Asn Gln Asp Ser Ser Thr
2060 2065 2070

Sequence Listing korrekt.txt

Pro Val Val Asn Ala Leu Asp Pro Pro Leu Phe Thr Arg Tyr Leu
2075 2080 2085

Arg Ile His Pro Thr Ser Trp Ala Gln His Ile Ala Leu Arg Leu
2090 2095 2100

Glu Val Leu Gly Cys Glu Ala Gln Asp Leu Tyr
2105 2110

<210> 34

<211> 2332

<212> PRT

<213> Homo sapiens

<400> 34

Ala Thr Arg Arg Tyr Tyr Leu Gly Ala Val Glu Leu Ser Trp Asp Tyr
1 5 10 15

Met Gln Ser Asp Leu Gly Glu Leu Pro Val Asp Ala Arg Phe Pro Pro
20 25 30

Arg Val Pro Lys Ser Phe Pro Phe Asn Thr Ser Val Val Tyr Lys Lys
35 40 45

Thr Leu Phe Val Glu Phe Thr Asp His Leu Phe Asn Ile Ala Lys Pro
50 55 60

Arg Pro Pro Trp Met Gly Leu Leu Gly Pro Thr Ile Gln Ala Glu Val
65 70 75 80

Tyr Asp Thr Val Val Ile Thr Leu Lys Asn Met Ala Ser His Pro Val
85 90 95

Ser Leu His Ala Val Gly Val Ser Tyr Trp Lys Ala Ser Glu Gly Ala
100 105 110

Glu Tyr Asp Asp Gln Thr Ser Gln Arg Glu Lys Glu Asp Asp Lys Val
115 120 125

Phe Pro Gly Gly Ser His Thr Tyr Val Trp Gln Val Leu Lys Glu Asn
130 135 140

Gly Pro Met Ala Ser Asp Pro Leu Cys Leu Thr Tyr Ser Tyr Leu Ser
145 150 155 160

His Val Asp Leu Val Lys Asp Leu Asn Ser Gly Leu Ile Gly Ala Leu
165 170 175

Sequence Listing korrekt.txt

Leu Val Cys Arg Glu Gly Ser Leu Ala Lys Glu Lys Thr Gln Thr Leu
 180 185 190
 His Lys Phe Ile Leu Leu Phe Ala Val Phe Asp Glu Gly Lys Ser Trp
 195 200 205
 His Ser Glu Thr Lys Asn Ser Leu Met Gln Asp Arg Asp Ala Ala Ser
 210 215 220
 Ala Arg Ala Trp Pro Lys Met His Thr Val Asn Gly Tyr Val Asn Arg
 225 230 235 240
 Ser Leu Pro Gly Leu Ile Gly Cys His Arg Lys Ser Val Tyr Trp His
 245 250 255
 Val Ile Gly Met Gly Thr Thr Pro Glu Val His Ser Ile Phe Leu Glu
 260 265 270
 Gly His Thr Phe Leu Val Arg Asn His Arg Gln Ala Ser Leu Glu Ile
 275 280 285
 Ser Pro Ile Thr Phe Leu Thr Ala Gln Thr Leu Leu Met Asp Leu Gly
 290 295 300
 Gln Phe Leu Leu Phe Cys His Ile Ser Ser His Gln His Asp Gly Met
 305 310 315 320
 Glu Ala Tyr Val Lys Val Asp Ser Cys Pro Glu Glu Pro Gln Leu Arg
 325 330 335
 Met Lys Asn Asn Glu Glu Ala Glu Asp Tyr Asp Asp Asp Leu Thr Asp
 340 345 350
 Ser Glu Met Asp Val Val Arg Phe Asp Asp Asp Asn Ser Pro Ser Phe
 355 360 365
 Ile Gln Ile Arg Ser Val Ala Lys Lys His Pro Lys Thr Trp Val His
 370 375 380
 Tyr Ile Ala Ala Glu Glu Glu Asp Trp Asp Tyr Ala Pro Leu Val Leu
 385 390 395 400
 Ala Pro Asp Asp Arg Ser Tyr Lys Ser Gln Tyr Leu Asn Asn Gly Pro
 405 410 415
 Gln Arg Ile Gly Arg Lys Tyr Lys Lys Val Arg Phe Met Ala Tyr Thr
 420 425 430
 Asp Glu Thr Phe Lys Thr Arg Glu Ala Ile Gln His Glu Ser Gly Ile
 435 440 445

Sequence Listing korrekt.txt

Leu Gly Pro Leu Leu Tyr Gly Glu Val Gly Asp Thr Leu Leu Ile Ile
450 455 460

Phe Lys Asn Gln Ala Ser Arg Pro Tyr Asn Ile Tyr Pro His Gly Ile
465 470 475 480

Thr Asp Val Arg Pro Leu Tyr Ser Arg Arg Leu Pro Lys Gly Val Lys
485 490 495

His Leu Lys Asp Phe Pro Ile Leu Pro Gly Glu Ile Phe Lys Tyr Lys
500 505 510

Trp Thr Val Thr Val Glu Asp Gly Pro Thr Lys Ser Asp Pro Arg Cys
515 520 525

Leu Thr Arg Tyr Tyr Ser Ser Phe Val Asn Met Glu Arg Asp Leu Ala
530 535 540

Ser Gly Leu Ile Gly Pro Leu Leu Ile Cys Tyr Lys Glu Ser Val Asp
545 550 555 560

Gln Arg Gly Asn Gln Ile Met Ser Asp Lys Arg Asn Val Ile Leu Phe
565 570 575

Ser Val Phe Asp Glu Asn Arg Ser Trp Tyr Leu Thr Glu Asn Ile Gln
580 585 590

Arg Phe Leu Pro Asn Pro Ala Gly Val Gln Leu Glu Asp Pro Glu Phe
595 600 605

Gln Ala Ser Asn Ile Met His Ser Ile Asn Gly Tyr Val Phe Asp Ser
610 615 620

Leu Gln Leu Ser Val Cys Leu His Glu Val Ala Tyr Trp Tyr Ile Leu
625 630 635 640

Ser Ile Gly Ala Gln Thr Asp Phe Leu Ser Val Phe Phe Ser Gly Tyr
645 650 655

Thr Phe Lys His Lys Met Val Tyr Glu Asp Thr Leu Thr Leu Phe Pro
660 665 670

Phe Ser Gly Glu Thr Val Phe Met Ser Met Glu Asn Pro Gly Leu Trp
675 680 685

Ile Leu Gly Cys His Asn Ser Asp Phe Arg Asn Arg Gly Met Thr Ala
690 695 700

Leu Leu Lys Val Ser Ser Cys Asp Lys Asn Thr Gly Asp Tyr Tyr Glu
705 710 715 720

Sequence Listing korrekt.txt

Asp Ser Tyr Glu Asp Ile Ser Ala Tyr Leu Leu Ser Lys Asn Asn Ala
725 730 735

Ile Glu Pro Arg Ser Phe Ser Gln Asn Ser Arg His Arg Ser Thr Arg
740 745 750

Gln Lys Gln Phe Asn Ala Thr Thr Ile Pro Glu Asn Asp Ile Glu Lys
755 760 765

Thr Asp Pro Trp Phe Ala His Arg Thr Pro Met Pro Lys Ile Gln Asn
770 775 780

Val Ser Ser Ser Asp Leu Leu Met Leu Leu Arg Gln Ser Pro Thr Pro
785 790 795 800

His Gly Leu Ser Leu Ser Asp Leu Gln Glu Ala Lys Tyr Glu Thr Phe
805 810 815

Ser Asp Asp Pro Ser Pro Gly Ala Ile Asp Ser Asn Asn Ser Leu Ser
820 825 830

Glu Met Thr His Phe Arg Pro Gln Leu His His Ser Gly Asp Met Val
835 840 845

Phe Thr Pro Glu Ser Gly Leu Gln Leu Arg Leu Asn Glu Lys Leu Gly
850 855 860

Thr Thr Ala Ala Thr Glu Leu Lys Lys Leu Asp Phe Lys Val Ser Ser
865 870 875 880

Thr Ser Asn Asn Leu Ile Ser Thr Ile Pro Ser Asp Asn Leu Ala Ala
885 890 895

Gly Thr Asp Asn Thr Ser Ser Leu Gly Pro Pro Ser Met Pro Val His
900 905 910

Tyr Asp Ser Gln Leu Asp Thr Thr Leu Phe Gly Lys Lys Ser Ser Pro
915 920 925

Leu Thr Glu Ser Gly Gly Pro Leu Ser Leu Ser Glu Glu Asn Asn Asp
930 935 940

Ser Lys Leu Leu Glu Ser Gly Leu Met Asn Ser Gln Glu Ser Ser Trp
945 950 955 960

Gly Lys Asn Val Ser Ser Thr Glu Ser Gly Arg Leu Phe Lys Gly Lys
965 970 975

Arg Ala His Gly Pro Ala Leu Leu Thr Lys Asp Asn Ala Leu Phe Lys
980 985 990

Sequence Listing korrekt.txt

Val Ser Ile Ser Leu Leu Lys Thr Asn Lys Thr Ser Asn Asn Ser Ala
995 1000 1005

Thr Asn Arg Lys Thr His Ile Asp Gly Pro Ser Leu Leu Ile Glu
1010 1015 1020

Asn Ser Pro Ser Val Trp Gln Asn Ile Leu Glu Ser Asp Thr Glu
1025 1030 1035

Phe Lys Lys Val Thr Pro Leu Ile His Asp Arg Met Leu Met Asp
1040 1045 1050

Lys Asn Ala Thr Ala Leu Arg Leu Asn His Met Ser Asn Lys Thr
1055 1060 1065

Thr Ser Ser Lys Asn Met Glu Met Val Gln Gln Lys Lys Glu Gly
1070 1075 1080

Pro Ile Pro Pro Asp Ala Gln Asn Pro Asp Met Ser Phe Phe Lys
1085 1090 1095

Met Leu Phe Leu Pro Glu Ser Ala Arg Trp Ile Gln Arg Thr His
1100 1105 1110

Gly Lys Asn Ser Leu Asn Ser Gly Gln Gly Pro Ser Pro Lys Gln
1115 1120 1125

Leu Val Ser Leu Gly Pro Glu Lys Ser Val Glu Gly Gln Asn Phe
1130 1135 1140

Leu Ser Glu Lys Asn Lys Val Val Val Gly Lys Gly Glu Phe Thr
1145 1150 1155

Lys Asp Val Gly Leu Lys Glu Met Val Phe Pro Ser Ser Arg Asn
1160 1165 1170

Leu Phe Leu Thr Asn Leu Asp Asn Leu His Glu Asn Asn Thr His
1175 1180 1185

Asn Gln Glu Lys Lys Ile Gln Glu Glu Ile Glu Lys Lys Glu Thr
1190 1195 1200

Leu Ile Gln Glu Asn Val Val Leu Pro Gln Ile His Thr Val Thr
1205 1210 1215

Gly Thr Lys Asn Phe Met Lys Asn Leu Phe Leu Leu Ser Thr Arg
1220 1225 1230

Gln Asn Val Glu Gly Ser Tyr Asp Gly Ala Tyr Ala Pro Val Leu
1235 1240 1245

Sequence Listing korrekt.txt

Gln Asp Phe Arg Ser Leu Asn Asp Ser Thr Asn Arg Thr Lys Lys
1250 1255 1260

His Thr Ala His Phe Ser Lys Lys Gly Glu Glu Glu Asn Leu Glu
1265 1270 1275

Gly Leu Gly Asn Gln Thr Lys Gln Ile Val Glu Lys Tyr Ala Cys
1280 1285 1290

Thr Thr Arg Ile Ser Pro Asn Thr Ser Gln Gln Asn Phe Val Thr
1295 1300 1305

Gln Arg Ser Lys Arg Ala Leu Lys Gln Phe Arg Leu Pro Leu Glu
1310 1315 1320

Glu Thr Glu Leu Glu Lys Arg Ile Ile Val Asp Asp Thr Ser Thr
1325 1330 1335

Gln Trp Ser Lys Asn Met Lys His Leu Thr Pro Ser Thr Leu Thr
1340 1345 1350

Gln Ile Asp Tyr Asn Glu Lys Glu Lys Gly Ala Ile Thr Gln Ser
1355 1360 1365

Pro Leu Ser Asp Cys Leu Thr Arg Ser His Ser Ile Pro Gln Ala
1370 1375 1380

Asn Arg Ser Pro Leu Pro Ile Ala Lys Val Ser Ser Phe Pro Ser
1385 1390 1395

Ile Arg Pro Ile Tyr Leu Thr Arg Val Leu Phe Gln Asp Asn Ser
1400 1405 1410

Ser His Leu Pro Ala Ala Ser Tyr Arg Lys Lys Asp Ser Gly Val
1415 1420 1425

Gln Glu Ser Ser His Phe Leu Gln Gly Ala Lys Lys Asn Asn Leu
1430 1435 1440

Ser Leu Ala Ile Leu Thr Leu Glu Met Thr Gly Asp Gln Arg Glu
1445 1450 1455

Val Gly Ser Leu Gly Thr Ser Ala Thr Asn Ser Val Thr Tyr Lys
1460 1465 1470

Lys Val Glu Asn Thr Val Leu Pro Lys Pro Asp Leu Pro Lys Thr
1475 1480 1485

Ser Gly Lys Val Glu Leu Leu Pro Lys Val His Ile Tyr Gln Lys
1490 1495 1500

Sequence Listing korrekt.txt

Asp Leu Phe Pro Thr Glu Thr Ser Asn Gly Ser Pro Gly His Leu
 1505 1510 1515
 Asp Leu Val Glu Gly Ser Leu Leu Gln Gly Thr Glu Gly Ala Ile
 1520 1525 1530
 Lys Trp Asn Glu Ala Asn Arg Pro Gly Lys Val Pro Phe Leu Arg
 1535 1540 1545
 Val Ala Thr Glu Ser Ser Ala Lys Thr Pro Ser Lys Leu Leu Asp
 1550 1555 1560
 Pro Leu Ala Trp Asp Asn His Tyr Gly Thr Gln Ile Pro Lys Glu
 1565 1570 1575
 Glu Trp Lys Ser Gln Glu Lys Ser Pro Glu Lys Thr Ala Phe Lys
 1580 1585 1590
 Lys Lys Asp Thr Ile Leu Ser Leu Asn Ala Cys Glu Ser Asn His
 1595 1600 1605
 Ala Ile Ala Ala Ile Asn Glu Gly Gln Asn Lys Pro Glu Ile Glu
 1610 1615 1620
 Val Thr Trp Ala Lys Gln Gly Arg Thr Glu Arg Leu Cys Ser Gln
 1625 1630 1635
 Asn Pro Pro Val Leu Lys Arg His Gln Arg Glu Ile Thr Arg Thr
 1640 1645 1650
 Thr Leu Gln Ser Asp Gln Glu Glu Ile Asp Tyr Asp Asp Thr Ile
 1655 1660 1665
 Ser Val Glu Met Lys Lys Glu Asp Phe Asp Ile Tyr Asp Glu Asp
 1670 1675 1680
 Glu Asn Gln Ser Pro Arg Ser Phe Gln Lys Lys Thr Arg His Tyr
 1685 1690 1695
 Phe Ile Ala Ala Val Glu Arg Leu Trp Asp Tyr Gly Met Ser Ser
 1700 1705 1710
 Ser Pro His Val Leu Arg Asn Arg Ala Gln Ser Gly Ser Val Pro
 1715 1720 1725
 Gln Phe Lys Lys Val Val Phe Gln Glu Phe Thr Asp Gly Ser Phe
 1730 1735 1740
 Thr Gln Pro Leu Tyr Arg Gly Glu Leu Asn Glu His Leu Gly Leu
 1745 1750 1755

Sequence Listing korrekt.txt

Leu Gly Pro Tyr Ile Arg Ala Glu Val Glu Asp Asn Ile Met Val
1760 1765 1770

Thr Phe Arg Asn Gln Ala Ser Arg Pro Tyr Ser Phe Tyr Ser Ser
1775 1780 1785

Leu Ile Ser Tyr Glu Glu Asp Gln Arg Gln Gly Ala Glu Pro Arg
1790 1795 1800

Lys Asn Phe Val Lys Pro Asn Glu Thr Lys Thr Tyr Phe Trp Lys
1805 1810 1815

Val Gln His His Met Ala Pro Thr Lys Asp Glu Phe Asp Cys Lys
1820 1825 1830

Ala Trp Ala Tyr Phe Ser Asp Val Asp Leu Glu Lys Asp Val His
1835 1840 1845

Ser Gly Leu Ile Gly Pro Leu Leu Val Cys His Thr Asn Thr Leu
1850 1855 1860

Asn Pro Ala His Gly Arg Gln Val Thr Val Gln Glu Phe Ala Leu
1865 1870 1875

Phe Phe Thr Ile Phe Asp Glu Thr Lys Ser Trp Tyr Phe Thr Glu
1880 1885 1890

Asn Met Glu Arg Asn Cys Arg Ala Pro Cys Asn Ile Gln Met Glu
1895 1900 1905

Asp Pro Thr Phe Lys Glu Asn Tyr Arg Phe His Ala Ile Asn Gly
1910 1915 1920

Tyr Ile Met Asp Thr Leu Pro Gly Leu Val Met Ala Gln Asp Gln
1925 1930 1935

Arg Ile Arg Trp Tyr Leu Leu Ser Met Gly Ser Asn Glu Asn Ile
1940 1945 1950

His Ser Ile His Phe Ser Gly His Val Phe Thr Val Arg Lys Lys
1955 1960 1965

Glu Glu Tyr Lys Met Ala Leu Tyr Asn Leu Tyr Pro Gly Val Phe
1970 1975 1980

Glu Thr Val Glu Met Leu Pro Ser Lys Ala Gly Ile Trp Arg Val
1985 1990 1995

Glu Cys Leu Ile Gly Glu His Leu His Ala Gly Met Ser Thr Leu
2000 2005 2010

Sequence Listing korrekt.txt

Phe Leu Val Tyr Ser Asn Lys Cys Gln Thr Pro Leu Gly Met Ala
 2015 2020 2025
 Ser Gly His Ile Arg Asp Phe Gln Ile Thr Ala Ser Gly Gln Tyr
 2030 2035 2040
 Gly Gln Trp Ala Pro Lys Leu Ala Arg Leu His Tyr Ser Gly Ser
 2045 2050 2055
 Ile Asn Ala Trp Ser Thr Lys Glu Pro Phe Ser Trp Ile Lys Val
 2060 2065 2070
 Asp Leu Leu Ala Pro Met Ile Ile His Gly Ile Lys Thr Gln Gly
 2075 2080 2085
 Ala Arg Gln Lys Phe Ser Ser Leu Tyr Ile Ser Gln Phe Ile Ile
 2090 2095 2100
 Met Tyr Ser Leu Asp Gly Lys Lys Trp Gln Thr Tyr Arg Gly Asn
 2105 2110 2115
 Ser Thr Gly Thr Leu Met Val Phe Phe Gly Asn Val Asp Ser Ser
 2120 2125 2130
 Gly Ile Lys His Asn Ile Phe Asn Pro Pro Ile Ile Ala Arg Tyr
 2135 2140 2145
 Ile Arg Leu His Pro Thr His Tyr Ser Ile Arg Ser Thr Leu Arg
 2150 2155 2160
 Met Glu Leu Met Gly Cys Asp Leu Asn Ser Cys Ser Met Pro Leu
 2165 2170 2175
 Gly Met Glu Ser Lys Ala Ile Ser Asp Ala Gln Ile Thr Ala Ser
 2180 2185 2190
 Ser Tyr Phe Thr Asn Met Phe Ala Thr Trp Ser Pro Ser Lys Ala
 2195 2200 2205
 Arg Leu His Leu Gln Gly Arg Ser Asn Ala Trp Arg Pro Gln Val
 2210 2215 2220
 Asn Asn Pro Lys Glu Trp Leu Gln Val Asp Phe Gln Lys Thr Met
 2225 2230 2235
 Lys Val Thr Gly Val Thr Thr Gln Gly Val Lys Ser Leu Leu Thr
 2240 2245 2250
 Ser Met Tyr Val Lys Glu Phe Leu Ile Ser Ser Ser Gln Asp Gly
 2255 2260 2265

Sequence Listing korrekt.txt

His Gln Trp Thr Leu Phe Phe Gln Asn Gly Lys Val Lys Val Phe
 2270 2275 2280

Gln Gly Asn Gln Asp Ser Phe Thr Pro Val Val Asn Ser Leu Asp
 2285 2290 2295

Pro Pro Leu Leu Thr Arg Tyr Leu Arg Ile His Pro Gln Ser Trp
 2300 2305 2310

Val His Gln Ile Ala Leu Arg Met Glu Val Leu Gly Cys Glu Ala
 2315 2320 2325

Gln Asp Leu Tyr
 2330